

What is claimed is:

1. An apparatus for adapting graphics contents to use a single source for multiple uses, comprising:

5 a graphics usage environment information managing means for collecting, describing and managing graphics usage environment information from a user terminal that consumes the graphics contents; and

a graphics adapting means for adapting the graphics  
10 contents to the graphics usage environment information of the user terminal and outputting the adapted graphics contents to the user terminal,

wherein the graphics usage environment information includes user terminal characteristics information and  
15 graphics presentation preference information.

2. The apparatus as recited in claim 1, wherein the user terminal characteristics information includes information related to encoding/decoding performance of the  
20 user terminal, and

the graphics adapting means adapts the graphics contents based on the information related to encoding/decoding performance and transmits the adapted graphics contents to the user terminal.

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3. The apparatus as recited in claim 2, wherein the information related to encoding/decoding performance includes information on the maximum number of vertices processed per second in the user terminal.

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4. The apparatus as recited in claim 2, wherein the information related to encoding/decoding performance includes information on the maximum number of pixels shown in a screen buffer of the user terminal per second.

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5. The apparatus as recited in claim 2, wherein the information related to encoding/decoding performance includes information on the maximum rate between a graphics processor and a graphics memory of the user terminal.

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6. The apparatus as recited in claim 1, wherein the graphics presentation preference information includes preference for geometrical characteristics of graphic objects of the graphics contents, and

10 the graphics adapting means adapts the graphics contents by changing the geometric characteristics of the graphic objects of the graphics contents and transmits the adapted graphics contents to the user terminal.

15 7. The apparatus as recited in claim 1, wherein the graphics presentation preference information includes preference for material characteristics of the graphic objects of the graphics contents, and

20 the graphics adapting means adapts the graphics contents by changing material characteristics of the graphic objects of the graphics contents and transmits the adapted graphics contents to the user terminal.

25 8. The apparatus as recited in claim 1, wherein the graphics presentation preference information includes user preference for the number of pictures of animation graphic objects shown for one second, and

30 the graphics adapting means adapts the graphics contents by changing characteristics of the animation graphic objects of the graphics contents based on the user preference and transmits the adapted graphics contents to the user terminal.

9. A method for adapting graphics contents for  
35 using a single source for multiple usages, comprising the

steps of:

a) collecting, describing and managing graphics usage environment information from a user terminal that consumes the graphics contents; and

5        b) adapting the graphics contents to the graphics usage environment information of the user terminal and outputting the adapted graphics contents to the user terminal,

         wherein the graphics usage environment information  
10 includes user terminal characteristics information and graphics presentation preference information.

         10. The method as recited in claim 9, wherein the user terminal characteristics information includes  
15 information related to encoding/decoding performance of the user terminal, and

         in the step b),

         the graphics contents are adapted based on the information related to encoding/decoding performance and  
20 the adapted graphics contents are transmitted to the user terminal.

         11. The apparatus as recited in claim 10, wherein the information related to encoding/decoding performance  
25 includes information on the maximum number of vertices processed per second in the user terminal.

         12. The apparatus as recited in claim 10, wherein the information related to encoding/decoding performance  
30 includes information on the maximum number of pixels shown in a screen buffer of the user terminal per second.

         13. The apparatus as recited in claim 10, wherein the information related to encoding/decoding performance  
35 includes information on the maximum rate between a graphics

processor and a graphics memory of the user terminal.

14. The apparatus as recited in claim 9, wherein the graphics presentation preference information includes  
5 preference for geometrical characteristics of graphic objects of the graphics contents, and

in the step b),

the graphics contents are adapted by changing the geometric characteristics of the graphic objects of the  
10 graphics contents and the adapted graphics contents are transmitted to the user terminal.

15. The apparatus as recited in claim 9, wherein the graphics presentation preference information includes  
15 preference for material characteristics of the graphic objects of the graphics contents, and

in the step b),

the graphics contents are adapted by changing material characteristics of the graphic objects of the graphics  
20 contents and the adapted graphics contents are transmitted to the user terminal.

16. The apparatus as recited in claim 9, wherein the graphics presentation preference information includes user  
25 preference for the number of pictures of animation graphic objects shown for one second, and

in the step b),

the graphics contents are adapted by changing characteristics of the animation graphic objects of the  
30 graphics contents based on the user preference and transmits the adapted graphics contents to the user terminal.